

IN THE CLAIMS

Claims 1-2. (Canceled)

3. (Currently Amended) An image-processing apparatus for processing the image data input from an image-handling device and then outputting the image data to another image-handling device, said apparatus comprising:

black adaptation correction means for correcting the image data, such that colors of the image data produced by the image-handling devices are similar, by applying a black adaptation conversion $X_s Y_s Z_s$ to $X_{s,k} Y_{s,k} Z_{s,k}$ in order to determine optimal color space $X_{op} Y_{op} Z_{op}$ such that the colors of the images produced by the image-handling devices are similar

first converting means for converting an RGB value to a first XYZ value;

second converting means for converting the first XYZ value to a first LMS value;

third converting means for converting the first LMS value to a first $X_{op} Y_{op} Z_{op}$ value for use in an optical color space;

first performing means for performing image editing processing on the first $X_{op} Y_{op} Z_{op}$ value to obtain a $L_s a_s b_s$ value;

second performing means for performing image editing processing on the $L_s a_s b_s$ value;

fourth converting means for converting the edited $L_s a_s b_s$ value to a second $X_{op} Y_{op} Z_{op}$ value;

fifth converting means for converting the second $X_{op} Y_{op} Z_{op}$ value to a second LMS value for use in a LMS color space;

sixth converting means for converting the second LMS value to a second XYZ value; and

seventh converting means for converting the second XYZ value to a CMY value;
wherein image data processing in the optical color space does not depend on a dynamic
range of the image-handling devices.

4. (Currently Amended) A method of processing image data input from an image-handling device before the image data is output to another image-handling device, said method comprising the step of:

correcting the image data, such that colors of the image data produced by the image-handling devices are similar, by: applying a black adaptation conversion from $X_s Y_s Z_s$ to $X_{s,k} Y_{s,k} Z_{s,k}$ in order to determine optimal color space $X_{op} Y_{op} Z_{op}$ such that the colors of the images produced by the image-handling devices are similar

converting an RGB value to a first XYZ value;
converting the first XYZ value to a first LMS value;
converting the first LMS value to a first $X_{op} Y_{op} Z_{op}$ value for use in an optical color space;

performing image editing processing on the first $X_{op} Y_{op} Z_{op}$ value to obtain a $L_{sa_s b_s}$ value;

performing image editing processing on the $L_{sa_s b_s}$ value;
converting the edited $L_{sa_s b_s}$ value to a second $X_{op} Y_{op} Z_{op}$ value;
converting the second $X_{op} Y_{op} Z_{op}$ value to a second LMS value for use in a LMS color space;

converting the second LMS value to a second XYZ value; and
converting the second XYZ value to a CMY value;
wherein image data processing in the optical color space does not depend on a dynamic
range of the image-handling devices.